

=> d his

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(FILE 'USPAT' ENTERED AT 13:59:58 ON 28 AUG 1997)
L1      509 S ((MULTI-PRECISION OR PRECISION) (3A) ARITHMETIC)
L2      404 S L1 AND (PROCESSOR# OR CPU#)
L3      391 S L2 AND (MEMORY OR RAM OR STORAGE OR REGISTER#)
L4      342 S L3 AND (BOOLEAN OR INTEGER OR FLOATING-POINT OR FLOATING
PO
L5      283 S L4 AND ((TRANSFER? OR TRANSMIT? OR SEND? OR RECEIV?) (5A)
DAT
L6      154 S L5 AND (DATA(3A) (SIZE# OR LENGTH# OR WIDTH#))
L7      69 S L6 AND ((DATA OR PEAK) (2A) (RATE# OR THROUGHPUT OR CAPACI
TY)
L8      66 S L7 AND (PATH# OR CHANNEL#)
L9      34 S L6 AND (ARITHMETIC OR MATHEMAT?)/TI,AB
L10     14 S L9 NOT L7
L11     11 S L6 AND (MEDIA(3A) (DATA OR INFORMATION OR PROCESSOR# OR C
PU#
L12     80 S (L8 OR L10)
L13     7 S L11 NOT L12
L14     87 S (L12 OR L13)
L15     12 S L1 AND (MEDIA(3A) (DATA OR INFORMATION OR PROCESSOR# OR C
PU#
L16     1 S L15 NOT L14
L17     88 S (L14 OR L16)
L18     5048 S (ARITHMETIC OR MATHEMAT?)/TI,AB
L19     180 S L18 AND (MULTIPRECISION OR MULTI-PRECISION OR DOUBLE PRE
CIS
L20     114 S L19 AND (PROCESSOR# OR CPU# OR EXECUT? OR MEDIA OR MANIP
ULA
L21     104 S L20 NOT L17
L22     51 S L21 AND ((DATA OR COMMUNICATION OR TRANSMISSION) (2W) (PAT
H#
L23     89 S L20 AND (INTEGER OR FLOATING POINT OR FLOATING-POINT)
L24     49 S L23 AND (RATE OR THROUGHPUT)
L25     77 S (L22 OR L24)
L26     70 S L25 NOT L17
L27     158 S (L17 OR L26)
L28     107 S L27 AND (PROCESSOR# OR CPU# OR MEDIA OR RATE OR THROUGHPU
UT
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=> d 1-107

1. 5,659,495, Aug. 19, 1997, Numeric **processor** including a multiply-add circuit for computing a succession of product sums using redundant values without conversion to nonredundant format; Willard Stuart Briggs, et al., 364/736.02, 746.2 :IMAGE AVAILABLE:
2. 5,644,524, Jul. 1, 1997, Iterative division apparatus, system and method employing left most one's detection and left most one's detection with exclusive or; Jerry R. Van Aken, et al., 364/766 :IMAGE AVAILABLE:
3. 5,644,522, Jul. 1, 1997, Method, apparatus and system for multiply rounding using redundant coded multiply result; Philip Moyse, et al., 364/745.02, 746.2 :IMAGE AVAILABLE:
4. 5,640,588, Jun. 17, 1997, **CPU** architecture performing dynamic instruction scheduling at time of **execution** within single clock

cycle; Anantakotiraju Vegesna, et al., 395/800.23; 364/230.3, 231.8, 262.4, DIG.1; 395/390.392 :IMAGE AVAILABLE:

5. 5,625,836, Apr. 29, 1997, SIMD/MIMD processing **memory** element (PME); Thomas N. Barker, et al., 395/200.44, 377, 474 :IMAGE AVAILABLE:

6. 5,606,677, Feb. 25, 1997, Packed word pair multiply operation forming output including most significant bits of product and other bits of one input; Keith Balmer, et al., 395/384; 364/757, DIG.1, DIG.2 :IMAGE AVAILABLE:

7. 5,606,374, Feb. 25, 1997, Video receiver display of menu overlaying video; Randal L. Bertram, 348/565; 345/114, 158; 348/601, 734 :IMAGE AVAILABLE:

8. 5,604,544, Feb. 18, 1997, Video receiver display of cursor overlaying video; Randal Lee Bertram, 348/601; 345/158; 348/563, 734 :IMAGE AVAILABLE:

9. 5,602,597, Feb. 11, 1997, Video receiver display of video overlaying menu; Randal L. Bertram, 348/565; 345/114, 158; 348/601, 734 :IMAGE AVAILABLE:

10. 5,600,847, Feb. 4, 1997, Three input arithmetic logic unit with mask generator; Karl M. Gutttag, et al., 395/800.36; 364/DIG.1; 395/501, 800.34 :IMAGE AVAILABLE:

11. 5,600,846, Feb. 4, 1997, Data processing system and method thereof; Michael G. Gallup, et al., 395/800.05, 800.03, 800.06 :IMAGE AVAILABLE:

12. 5,600,726, Feb. 4, 1997, Method for creating specific purpose rule-based n-bit virtual machines; Joseph M. Morgan, et al., 380/49, 4, 25 :IMAGE AVAILABLE:

13. 5,598,571, Jan. 28, 1997, Data **processor** for conditionally modifying extension bits in response to data processing instruction execution; Michael G. Gallup, et al., 395/800.09; 364/931.03, 931.51, 944.4, 944.6, 946.7, DIG.2; 395/800.03, 800.22 :IMAGE AVAILABLE:

14. 5,590,350, Dec. 31, 1996, Three input arithmetic logic unit with mask generator; Karl M. Gutttag, et al., 395/800.36; 364/DIG.1, DIG.2; 395/501, 800.34 :IMAGE AVAILABLE:

15. 5,590,345, Dec. 31, 1996, Advanced parallel array **processor** (APAP); Thomas N. Barker, et al., 395/800.11; 364/DIG.1, DIG.2; 395/800.14, 800.15 :IMAGE AVAILABLE:

16. 5,588,152, Dec. 24, 1996, Advanced parallel **processor** including advanced support hardware; Michael C. Dapp, et al., 395/800.16 :IMAGE AVAILABLE:

17. 5,583,805, Dec. 10, 1996, **Floating-point processor** having post-writeback spill stage; Timothy A. Elliott, et al., 364/748.01 :IMAGE AVAILABLE:

18. 5,572,689, Nov. 5, 1996, Data processing system and method thereof; Michael G. Gallup, et al., 395/376; 364/DIG.2 :IMAGE AVAILABLE:

19. 5,561,617, Oct. 1, 1996, Pyramid **processor** integrated circuit; Gooitzen S. van der Wal, 364/724.05, 724.13 :IMAGE AVAILABLE:

20. 5,559,973; Sep. 24, 1996, Data processing system and method thereof; Micheal G. Gallup, et al., 395/588; 364/DIG.1 :IMAGE AVAILABLE:

21. 5,548,768, Aug. 20, 1996, Data processing system and method thereof;

Michael G. Gallup, et al., 395/376; 364/DIG.1 :IMAGE AVAILABLE:

22. 5,539,479, Jul. 1996, Video receiver display cursor and menu overlaying video; Randal L. Bertram, 348/564; 345/120, 158; 348/601, 734 :IMAGE AVAILABLE:

23. 5,530,662, Jun. 25, 1996, Fixed point signal **processor** having block floating processing circuitry; Hisami Ide, 364/736.01 :IMAGE AVAILABLE:

24. 5,517,436, May 14, 1996, Digital signal **processor** for audio applications; David C. Andreas, et al., 364/736.04, 736.02, 768 :IMAGE AVAILABLE:

25. 5,512,896, Apr. 30, 1996, Huffman encoding method, circuit and system employing most significant bit change for size detection; Christopher J. Read, et al., 341/65 :IMAGE AVAILABLE:

26. 5,509,129, Apr. 16, 1996, Long instruction word controlling plural independent **processor** operations; Karl M. Gutttag, et al., 395/379; 364/736.04; 395/800.24 :IMAGE AVAILABLE:

27. 5,508,951, Apr. 16, 1996, **Arithmetic** apparatus with overflow correction means; Toshihiro Ishikawa, 364/745.03 :IMAGE AVAILABLE:

28. 5,479,166, Dec. 26, 1995, Huffman decoding method, circuit and system employing conditional subtraction for conversion of negative numbers; Christopher J. Read, et al., 341/65 :IMAGE AVAILABLE:

29. 5,426,600, Jun. 20, 1995, **Double precision** division circuit and method for digital signal **processor**; Tetsuya Nakagawa, et al., 364/764, 761, 766 :IMAGE AVAILABLE:

30. 5,400,403, Mar. 21, 1995, Abuse-resistant object distribution system and method; Paul N. Fahn, et al., 380/21, 4, 25 :IMAGE AVAILABLE:

31. 5,388,236, Feb. 7, 1995, Digital signal **processor** with multiway branching based on parallel evaluation of N threshold values followed by sequential evaluation of M; Tokumichi Murakami, et al., 395/583; 364/221.4, 261.5, DIG.1; 395/800.36 :IMAGE AVAILABLE:

32. 5,359,674, Oct. 25, 1994, Pyramid **processor** integrated circuit; Gooitzen S. van der Wal, 382/261, 240, 299 :IMAGE AVAILABLE:

33. 5,307,506, Apr. 26, 1994, High bandwidth multiple computer bus apparatus; Robert P. Colwell, et al., 395/307; 364/229, 240, 240.2, 240.5, DIG.1; 395/287 :IMAGE AVAILABLE:

34. 5,267,186, Nov. 30, 1993, Normalizing pipelined **floating point** processing unit; Smeeta Gupta, et al., 364/748.14, 715.04, 748.13 :IMAGE AVAILABLE:

35. 5,233,698, Aug. 3, 1993, Method for operating data **processors**; William S. Zuk, 395/560; 364/950, 950.3, DIG.2 :IMAGE AVAILABLE:

36. 5,222,230, Jun. 22, 1993, Circuitry for transferring data from a data bus and temporary register into a plurality of input registers on clock edges; Michael C. Gill, et al., 395/559; 364/228.6, 232.8, 238, 239, 239.7, 240, 247, 247.4, 247.6, 247.8, 258, 258.1, 258.2, 259, 259.2, 260, 260.2, 263, 265, 266.3, 271.9, DIG.1 :IMAGE AVAILABLE:

37. 5,187,799, Feb. 16, 1993, **Arithmetic-stack processor** which precalculates external stack address before needed by **CPU** for building high level language **executing** computers; Anthony McAuley, et al., 395/800.36; 364/228.2, 231.8, 232.23, 232.3, 232.8, 238, 239, 239.8,

240, 244, 244.3, 245.7, 247, 247.3, 247.7, 247.8, 258, 258.1, 259, 259.1,
259.5, 262.4, 262.8, 262.9, 270, 270.4, 271.5, 280.4, 280.5, 280.6, 280.7, 280.8, 280.9, 281.0, 281.1, 281.2, 281.3, 281.4, 281.5, 281.6, 281.7, 281.8, 281.9, 282.0, 282.1, 282.2, 282.3, 282.4, 282.5, 282.6, 282.7, 282.8, 282.9, 283.0, 283.1, 283.2, 283.3, 283.4, 283.5, 283.6, 283.7, 283.8, 283.9, 284.0, 284.1, 284.2, 284.3, 284.4, 284.5, 284.6, 284.7, 284.8, 284.9, 285.0, 285.1, 285.2, 285.3, 285.4, 285.5, 285.6, 285.7, 285.8, 285.9, 286.0, 286.1, 286.2, 286.3, 286.4, 286.5, 286.6, 286.7, 286.8, 286.9, 287.0, 287.1, 287.2, 287.3, 287.4, 287.5, 287.6, 287.7, 287.8, 287.9, 288.0, 288.1, 288.2, 288.3, 288.4, 288.5, 288.6, 288.7, 288.8, 288.9, 289.0, 289.1, 289.2, 289.3, 289.4, 289.5, 289.6, 289.7, 289.8, 289.9, 290.0, 290.1, 290.2, 290.3, 290.4, 290.5, 290.6, 290.7, 290.8, 290.9, 291.0, 291.1, 291.2, 291.3, 291.4, 291.5, 291.6, 291.7, 291.8, 291.9, 292.0, 292.1, 292.2, 292.3, 292.4, 292.5, 292.6, 292.7, 292.8, 292.9, 293.0, 293.1, 293.2, 293.3, 293.4, 293.5, 293.6, 293.7, 293.8, 293.9, 294.0, 294.1, 294.2, 294.3, 294.4, 294.5, 294.6, 294.7, 294.8, 294.9, 295.0, 295.1, 295.2, 295.3, 295.4, 295.5, 295.6, 295.7, 295.8, 295.9, 296.0, 296.1, 296.2, 296.3, 296.4, 296.5, 296.6, 296.7, 296.8, 296.9, 297.0, 297.1, 297.2, 297.3, 297.4, 297.5, 297.6, 297.7, 297.8, 297.9, 298.0, 298.1, 298.2, 298.3, 298.4, 298.5, 298.6, 298.7, 298.8, 298.9, 299.0, 299.1, 299.2, 299.3, 299.4, 299.5, 299.6, 299.7, 299.8, 299.9, 300.0, 300.1, 300.2, 300.3, 300.4, 300.5, 300.6, 300.7, 300.8, 300.9, 301.0, 301.1, 301.2, 301.3, 301.4, 301.5, 301.6, 301.7, 301.8, 301.9, 302.0, 302.1, 302.2, 302.3, 302.4, 302.5, 302.6, 302.7, 302.8, 302.9, 303.0, 303.1, 303.2, 303.3, 303.4, 303.5, 303.6, 303.7, 303.8, 303.9, 304.0, 304.1, 304.2, 304.3, 304.4, 304.5, 304.6, 304.7, 304.8, 304.9, 305.0, 305.1, 305.2, 305.3, 305.4, 305.5, 305.6, 305.7, 305.8, 305.9, 306.0, 306.1, 306.2, 306.3, 306.4, 306.5, 306.6, 306.7, 306.8, 306.9, 307.0, 307.1, 307.2, 307.3, 307.4, 307.5, 307.6, 307.7, 307.8, 307.9, 308.0, 308.1, 308.2, 308.3, 308.4, 308.5, 308.6, 308.7, 308.8, 308.9, 309.0, 309.1, 309.2, 309.3, 309.4, 309.5, 309.6, 309.7, 309.8, 309.9, 310.0, 310.1, 310.2, 310.3, 310.4, 310.5, 310.6, 310.7, 310.8, 310.9, 311.0, 311.1, 311.2, 311.3, 311.4, 311.5, 311.6, 311.7, 311.8, 311.9, 312.0, 312.1, 312.2, 312.3, 312.4, 312.5, 312.6, 312.7, 312.8, 312.9, 313.0, 313.1, 313.2, 313.3, 313.4, 313.5, 313.6, 313.7, 313.8, 313.9, 314.0, 314.1, 314.2, 314.3, 314.4, 314.5, 314.6, 314.7, 314.8, 314.9, 315.0, 315.1, 315.2, 315.3, 315.4, 315.5, 315.6, 315.7, 315.8, 315.9, 316.0, 316.1, 316.2, 316.3, 316.4, 316.5, 316.6, 316.7, 316.8, 316.9, 317.0, 317.1, 317.2, 317.3, 317.4, 317.5, 317.6, 317.7, 317.8, 317.9, 318.0, 318.1, 318.2, 318.3, 318.4, 318.5, 318.6, 318.7, 318.8, 318.9, 319.0, 319.1, 319.2, 319.3, 319.4, 319.5, 319.6, 319.7, 319.8, 319.9, 320.0, 320.1, 320.2, 320.3, 320.4, 320.5, 320.6, 320.7, 320.8, 320.9, 321.0, 321.1, 321.2, 321.3, 321.4, 321.5, 321.6, 321.7, 321.8, 321.9, 322.0, 322.1, 322.2, 322.3, 322.4, 322.5, 322.6, 322.7, 322.8, 322.9, 323.0, 323.1, 323.2, 323.3, 323.4, 323.5, 323.6, 323.7, 323.8, 323.9, 324.0, 324.1, 324.2, 324.3, 324.4, 324.5, 324.6, 324.7, 324.8, 324.9, 325.0, 325.1, 325.2, 325.3, 325.4, 325.5, 325.6, 325.7, 325.8, 325.9, 326.0, 326.1, 326.2, 326.3, 326.4, 326.5, 326.6, 326.7, 326.8, 326.9, 327.0, 327.1, 327.2, 327.3, 327.4, 327.5, 327.6, 327.7, 327.8, 327.9, 328.0, 328.1, 328.2, 328.3, 328.4, 328.5, 328.6, 328.7, 328.8, 328.9, 329.0, 329.1, 329.2, 329.3, 329.4, 329.5, 329.6, 329.7, 329.8, 329.9, 330.0, 330.1, 330.2, 330.3, 330.4, 330.5, 330.6, 330.7, 330.8, 330.9, 331.0, 331.1, 331.2, 331.3, 331.4, 331.5, 331.6, 331.7, 331.8, 331.9, 332.0, 332.1, 332.2, 332.3, 332.4, 332.5, 332.6, 332.7, 332.8, 332.9, 333.0, 333.1, 333.2, 333.3, 333.4, 333.5, 333.6, 333.7, 333.8, 333.9, 334.0, 334.1, 334.2, 334.3, 334.4, 334.5, 334.6, 334.7, 334.8, 334.9, 335.0, 335.1, 335.2, 335.3, 335.4, 335.5, 335.6, 335.7, 335.8, 335.9, 336.0, 336.1, 336.2, 336.3, 336.4, 336.5, 336.6, 336.7, 336.8, 336.9, 337.0, 337

38. 5,062,041, Oct. 29, 1991, **Processor**/coprocessor interface apparatus including microinstruction clock synchronization; William S. Zuk, 395/562; 364/228, 228.6, 240.3, 262.4, 262.7, 262.8, 270, 270.3, 270.5, 271, 271.6; 395/553, 800.34 :IMAGE AVAILABLE:

39. 5,058,048, Oct. 15, 1991, Normalizing pipelined **floating point** processing unit; Smeeta Gupta, et al., 364/748.14, 748.13 :IMAGE AVAILABLE:

40. 5,053,631, Oct. 1, 1991, Pipelined **floating point** processing unit; Robert M. Perlman, et al., 364/748.14 :IMAGE AVAILABLE:

41. RE 33,629, Jul. 2, 1991, Numeric data **processor**; John F. Palmer, et al., 364/748.16, 258, 715.08, 737, 748.02 :IMAGE AVAILABLE:

42. 5,029,069, Jul. 2, 1991, Data **processor**; Ken Sakamura, 395/581;
364/259, 261.5, 736.5 :IMAGE AVAILABLE:

43. 4,975,868, Dec. 4, 1990, **Floating-point processor** having pre-adjusted exponent bias for multiplication and division; Donald L. Freerksen, 364/748.09, 748.1 :IMAGE AVAILABLE:

44. 4,949,247, Aug. 14, 1990, System for transferring multiple vector data elements to and from vector memory in a single operation; R. Ashley Stephenson, et al., 395/800.06; 364/228, 228.1, 231.4, 231.8, 232.21, 236.8, 238, 238.4, 239, 239.4, 241.9, 242.6, 242.8, 244, 244.8, 247, 247.4, 256.3, 256.5, 258, 259, 259.9, 271, 271.2, 736.03, DIG.1; 395/800.07 :IMAGE AVAILABLE:

45. 4,947,359, Aug. 7, 1990, Apparatus and method for prediction of zero arithmetic/logic results; Stamatis Vassiliadis, et al., 364/715.09, 736.5 :IMAGE AVAILABLE:

46. 4,945,479, Jul. 31, 1990, Tightly coupled scientific processing system; John T. Rusterholz, et al., 395/800.03; 364/228, 228.1, 228.6, 228.9, 230, 230.3, 232.21, 239.9, 243, 243.1, 255.1, 280, 281.3, DIG.1 :IMAGE AVAILABLE:

47. 4,924,422, May 8, 1990, Method and apparatus for modified carry-save determination of **arithmetic**/logic zero results; Stamatis Vassiliadis, et al., 364/715.09, 736.5 :IMAGE AVAILABLE:

48. 4,916,651, Apr. 10, 1990, Floating point **processor** architecture; Michael C. Gill, et al., 364/748.13, 750.5 :IMAGE AVAILABLE:

49. 4,901,268, Feb. 13, 1990, Multiple function data processor;
James E. Judd, 364/748.19, 749 :IMAGE AVAILABLE:

50. 4,875,161, Oct. 17, 1989, Scientific **processor** vector file
organization; Archie E. Lahti, 395/484; 364/222.81, 231.8, 232.21, 243.1,
246, 246.3, 252, 254, 254.2, 254.3, 263, 268.5, 271.6, 736.03, DIG.1;
395/405, 496 :IMAGE AVAILABLE:

51. 4,873,630, Oct. 10, 1989, Scientific **processor** to support a host **processor** referencing common **memory**; John T. Rusterholz, et al., 395/800.03; 364/228.1, 228.3, 231.8, 232.21, 232.7, 258, 258.1, 258.2, 263, DIG.1; 395/800.05, 800.06, 800.09 :IMAGE AVAILABLE:

52. 4,858,115, Aug. 15, 1989, Loop control mechanism for scientific **processor**; John T. Rusterholz, et al., 395/800.07; 364/228.1, 228.2, 228.5, 228.6, 229, 229.1, 231.9, 232.21, 232.22, 232.7, 238.5, 239.4,

241.9, 242.6, 242.91, 243, 244.3, 246, 246.3, 247, 247.8, 259.9, 262, 262.1, 265, 265.3, 271.2, 271.6, 927.92, 927.95, 931, 931.4, 931.51, 937.1, 937.7, 938, 938.1, 940, 940.4, 942.7, 942.9, 946.8, 950, 950.3, 964, 965.4, 966.1, 966.4, 977, DIG.1, DIG.2; 395/800.04 :IMAGE AVAILABLE:

53. 4,852,048, Jul. 25, 1989, Single instruction multiple data (SIMD) cellular array processing apparatus employing a common bus where a first number of bits manifest a first bus portion and a second number of bits manifest a second bus portion; Steven G. Morton, 395/800.11; 364/228.6, 229, 229.4, 231.9, 232.8, 232.9, 238, 240, 240.1, 244, 244.6, 244.8, 244.9, 245, 245.3, 247, 247.8, 256.3, 265, 266.3, 267, 267.7, 268, 268.9, 280, 280.2, 280.3, DIG.1; 395/800.22 :IMAGE AVAILABLE:

54. 4,833,599, May 23, 1989, Hierarchical priority branch handling for parallel **execution** in a parallel **processor**; Robert P. Colwell, et al., 395/583; 364/228.3, 231.8, 242.3, 242.6, 242.7, 247, 258, 258.1, 258.2, 259, 261.3, 261.5, 261.9, 262.4, 262.9, DIG.1; 395/800.24 :IMAGE AVAILABLE:

55. 4,797,808, Jan. 10, 1989, Microcomputer with self-test of macrocode; Jeffrey D. Bellay, et al., 395/183.06; 364/228.6, 232.8, 232.9, 240, 240.2, 244, 244.8, 245, 245.31, 245.4, 246.91, 247, 247.3, 247.6, 249, 249.2, 252, 258, 262.4, 262.7, 262.8, 265, 265.6, 266.3, 270, 270.3, 271.6, DIG.1 :IMAGE AVAILABLE:

56. 4,794,517, Dec. 27, 1988, Three phased pipelined signal **processor**; Gardner D. Jones, et al., 395/800.32; 364/221, 221.4, 231.8, 232.8, 232.9, 238, 239, 239.51, 240, 240.1, 240.2, 241.9, 242.3, 242.31, 242.32, 243, 243.3, 244, 244.3, 244.8, 247, 247.3, 247.8, 252, 254, 254.5, 258, 258.2, 259, 259.9, 260.4, 260.8, 261, 261.1, 262, 262.1, 262.4, 263, 263.2, 267, 267.5, 267.8, 270, 270.4, 271.6, 271.7, DIG.1 :IMAGE AVAILABLE:

57. 4,791,590, Dec. 13, 1988, High performance signal **processor**; Walter H. Ku, et al., 364/726.02, 726.06, 736.02 :IMAGE AVAILABLE:

58. 4,791,403, Dec. 13, 1988, Log encoder/decoder system; Joan L. Mitchell, et al., 341/51, 63, 75; 364/715.02, 748.01, 748.5, 857 :IMAGE AVAILABLE:

59. 4,777,613, Oct. 11, 1988, **Floating point** numeric data **processor**; Van B. Shahan, et al., 364/748.16, 223, 224, 228.6, 240, 240.2, 240.7, 244, 244.9, 258, 258.4, 262.4, 262.8, DIG.1 :IMAGE AVAILABLE:

60. 4,760,525, Jul. 26, 1988, Complex **arithmetic** vector **processor** for performing control function, scalar operation, and set-up of vector signal processing instruction; Richard F. Webb, 395/800.02; 364/DIG.1 :IMAGE AVAILABLE:

61. 4,748,580, May 31, 1988, **Multi-precision** fixed/floating-point **processor**; Charles D. Ashton, et al., 364/748.19 :IMAGE AVAILABLE:

62. 4,694,398, Sep. 15, 1987, Digital image frame **processor**; Francis R. Croteau, 382/309; 378/901 :IMAGE AVAILABLE:

63. 4,680,701, Jul. 14, 1987, Asynchronous high speed **processor** having high speed memories with domino circuits contained therein; Michael J. Cochran, 395/800.4; 364/232.8, 236.2, 237.2, 237.3, 238, 243, 243.6, 246.13, 246.3, 258, 270, 270.4, 270.5, 270.9, 271.5, 281.3, DIG.1; 365/194, 233 :IMAGE AVAILABLE:

64. 4,672,360, Jun. 9, 1987, Apparatus and method for converting a

number in binary format to a decimal format; John J. Bradley, et al.,
341/104; 364/715.011 :IMAGE AVAILABLE:

65. 4,667,190, May 19, 1987, Two axis fast access **memory**; Karl M.
Fant, 345/200 :IMAGE AVAILABLE:

66. 4,638,450, Jan. 20, 1987, Equal nine apparatus for supporting
absolute value subtracts on decimal operands of unequal length; Brian L.
Stoffers, 364/715.011, 768 :IMAGE AVAILABLE:

67. 4,627,021, Dec. 2, 1986, Integrated **processor** for the processing
of word-wise receivable data; Eric H. J. Persoon, et al., 395/800.36;
364/927.8, 933, 933.1, 937.1, 937.4, 937.8, 940, 942, 942.03, 947, 947.6,
957, 957.1, 957.8, 966.1, 966.7, DIG.2 :IMAGE AVAILABLE:

68. 4,620,287, Oct. 28, 1986, Method and apparatus for representation of
a curve of uniform width; David S. Yam, 395/142; 345/136; 396/556 :IMAGE
AVAILABLE:

69. 4,615,016, Sep. 30, 1986, Apparatus for performing simplified
decimal multiplication by stripping leading zeroes; John J. Bradley, et
al., 364/756, 754.01 :IMAGE AVAILABLE:

70. 4,608,659, Aug. 26, 1986, **Arithmetic** logic unit with outputs
indicating invalid computation results caused by invalid operands; John
J. Bradley, et al., 364/737 :IMAGE AVAILABLE:

71. 4,604,722, Aug. 5, 1986, Decimal **arithmetic** logic unit for
doubling or complementing decimal operand; Theodore R. Staplin, Jr., et
al., 364/715.011, 754.01 :IMAGE AVAILABLE:

72. 4,580,216, Apr. 1, 1986, Microcomputer with internal selection of
on-chip or off-chip access; Jeffrey D. Bellay, et al., 395/800.37;
364/232.8, 240, 240.2, 247, 247.8, 254.8, 258, 259, 262, 262.2, 262.4,
262.7, 262.8, DIG.1 :IMAGE AVAILABLE:

73. 4,580,215, Apr. 1, 1986, Associative array with five **arithmetic**
paths; Steven G. Morton, 395/800.13; 364/229, 229.5, 231.9, 238, 238.6,
238.7, 238.8, 240, 240.2, 244, 244.2, 244.8, 253, 253.3, 258, 258.4, 259,
259.5, 259.6, 716.03, 736.5, DIG.1 :IMAGE AVAILABLE:

74. 4,562,537, Dec. 31, 1985, High speed **processor**; Howard S.
Barnett, et al., 395/562; 364/232.7, 232.8, 234, 235, 236.2, 237.2,
237.3, 237.8, 238, 240, 240.2, 242.4, 243, 244, 244.3, 244.6, 246, 246.3,
248.1, 252, 258, 259, 259.8, 260, 260.2, 263.1, DIG.1; 395/800.32 :IMAGE
AVAILABLE:

75. 4,495,563, Jan. 22, 1985, Microcomputer having separate access to
complete microcode words and partial microcode words; Kevin C. McDonough,
395/800.42; 364/232.8, 243, 243.3, 244, 244.6, 252, 262.4, 262.7, 262.8,
DIG.1 :IMAGE AVAILABLE:

76. 4,490,783, Dec. 25, 1984, Microcomputer with self-test of microcode;
Kevin C. McDonough, et al., 395/568; 364/232.8, 243, 244, 244.6, 252,
262.4, 262.7, 262.8, 267, DIG.1; 371/40.18; 395/595 :IMAGE AVAILABLE:

77. 4,484,259, Nov. 20, 1984, Fraction bus for use in a numeric data
processor; John Palmer, et al., 364/754.01, 736.01, 748.09, 761
:IMAGE AVAILABLE:

78. 4,471,426, Sep. 11, 1984, Microcomputer which fetches two sets of
microcode bits at one time; Kevin C. McDonough, 395/387; 364/232.7,
232.8, 236.2, 236.3, 244, 244.6, 247, 247.2, 247.3, 247.6, 251, 251.3,
253, 253.2, 258, 259, 259.9, 262.4, 262.7, 262.8, 263.1, 280, 280.9,
DIG.1; 395/598 :IMAGE AVAILABLE:

79. 4,467,444, Aug. 1984, **Processor** unit for microcomputer systems; William J. Harmon, Jr., et al., 395/800.42; 364/736.01, 926.1, 926.5, 931, 931.1, 933, 933.1, 933.62, 933.9, 934, 934.1, 937.1, 940, 942, 942.8, 947, 947.1, 947.4, 947.6, 948, 957, 957.4, 959, 965, 965.3, DIG.2; 395/561 :IMAGE AVAILABLE:

80. 4,455,602, Jun. 19, 1984, Digital data processing system having an I/O means using unique address providing and access priority control techniques; Ward Baxter, III, et al., 395/825; 364/228.1, 228.3, 231.4, 231.6, 232.1, 243, 243.3, 244, 244.3, 246.6, 262.4, 262.8, 263, 280, 280.4, 281.3, 281.4, DIG.1; 395/859, 885 :IMAGE AVAILABLE:

81. 4,450,525, May 22, 1984, Control unit for a functional **processor**; Gordon L. Demuth, et al., 395/590; 364/221, 221.4, 221.5, 224, 224.2, 230, 230.3, 231.8, 238.4, 239, 239.1, 244, 244.3, 244.4, 244.6, 244.8, 247, 247.2, 254, 254.3, 254.5, 258, 258.1, 258.2, 259, 259.5, 260, 260.2, 261.3, 261.9, 262, 262.4, 262.8, 270.3, 280, 280.2, 281.3, DIG.1; 395/595, 733 :IMAGE AVAILABLE:

82. 4,450,521, May 22, 1984, Digital **processor** or microcomputer using peripheral control circuitry to provide multiple memory configurations and offset addressing capability; Kevin C. McDonough, et al., 395/823; 364/232.8, 232.9, 238.3, 239, 239.6, 240, 240.1, 240.2, 241.2, 241.6, 244, 244.1, 244.3, 244.5, 244.6, 245, 245.31, 245.4, 245.5, 246.91, 247, 247.2, 251, 251.3, 252, 258, 259, 259.9, 262.4, 262.8, 263.2, 270, DIG.1 :IMAGE AVAILABLE:

83. 4,449,196, May 15, 1984, Data processing system for **multi-precision arithmetic**; Eric K. Pritchard, 364/768, 745.01, 921, 921.2, 921.3, 921.8, 921.9, 926.9, 931.4, 931.44, 931.48, 935, 935.2, 935.4, 935.44, 937.1, 937.2, 937.7, 937.8, 939, 939.1, 939.4, 939.7, 940, 940.2, 941, 941.1, 942.3, 942.4, 942.5, 942.7, 942.8, 943.9, 944.6, 944.9, 946.2, 946.7, 948.2, 949, 950, 950.2, 950.3, 950.4, 950.61, 951.1, 951.4, 964, 964.5, 964.7, 966, 966.4, 967, 967.3, DIG.2 :IMAGE AVAILABLE:

84. 4,445,177, Apr. 24, 1984, Digital data processing system utilizing a unique arithmetic logic unit for handling uniquely identifiable addresses for operands and instructions; Richard G. Bratt, et al., 395/595; 364/228.3, 231.4, 231.6, 232.1, 238.4, 239, 239.7, 241.2, 241.3, 241.5, 241.9, 243, 243.4, 243.41, 243.43, 244, 244.3, 244.6, 246.6, 246.7, 246.8, 246.9, 246.91, 247, 247.2, 247.7, 247.8, 254, 254.3, 254.5, 256.8, 258, 258.2, 258.3, 259, 259.5, 259.8, 261.3, 261.6, 262.4, 262.7, 262.8, 262.81, 263, 263.2, 263.3, 265, 265.3, 266, 266.1, 267, 267.6, 267.9, 270, 270.1, 271, 271.3, 271.4, 271.6, 271.8, 280, 280.1, 280.4, 280.8, 280.9, 281, 281.3, 281.4, 281.5, 281.6, 281.7, 281.8, 282, 282.1, 282.2, 284, 284.3, DIG.1 :IMAGE AVAILABLE:

85. 4,441,154, Apr. 3, 1984, Self-emulator microcomputer; Kevin C. McDonough, et al., 395/800.43; 364/221, 221.6, 232.3, 232.8, 232.9, 238.6, 238.7, 239, 239.6, 240.1, 241.2, 241.6, 242, 244, 244.3, 244.6, 254, 254.3, 258, 260.4, 260.8, 261.3, 261.9, 262.4, 262.7, 262.8, 270, 270.4, DIG.1; 395/500, 733 :IMAGE AVAILABLE:

86. 4,423,483, Dec. 27, 1983, Data **processor** using a read only memory for selecting a part of a register into which data is written; Steven A. Tague, et al., 395/898; 364/228.6, 229, 229.2, 230, 230.3, 230.4, 240, 240.1, 240.2, 240.8, 240.9, 243, 243.4, 243.41, 252.3, 252.6, 255.1, 255.7, 258, 258.1, 258.2, 258.3, 259, 259.5, 259.6, 259.7, 264, 264.1, 264.5, DIG.1 :IMAGE AVAILABLE:

87. 4,390,961, Jun. 28, 1983, Data **processor** performing a decimal multiply operation using a read only memory; Virendra S. Negi, et al., 364/756 :IMAGE AVAILABLE:

88. 4,389,706, Jun. 1983, Digital computer monitored and/or operated system or process which is structured for operation with an improved automatic programming process and system; John W. Gomola, et al., 364/130, 226.7, 227.4, 231.4, 231.6, 237.8, 241.2, 241.3, 241.5, 259, 259.3, 260, 260.1, 260.4, 260.6, 281.3, 281.6, 281.8, 282.1, 282.3, 283.1, 468.03, 468.15, 492, 550, DIG.1 :IMAGE AVAILABLE:

89. 4,378,589, Mar. 29, 1983, Undirectional looped bus microcomputer architecture; Edward D. Finnegan, et al., 395/310; 364/229, 229.2, 231.8, 232.8, 238, 238.4, 239, 239.8, 240, 240.1, 240.2, 241.1, 241.2, 241.6, 241.9, 243, 244, 244.6, 247, 247.8, 258, 258.4, 259, 259.9, 260, 260.1, 262.4, 262.8, 263, 270, 270.4, 271.6, 271.7, 271.8, DIG.1 :IMAGE AVAILABLE:

90. 4,339,793, Jul. 13, 1982, Function integrated, shared ALU **processor** apparatus and method; George B. Marenin, 395/800.32; 364/229, 229.3, 231.4, 231.7, 231.8, 232.3, 232.8, 238, 240, 240.1, 240.2, 241.1, 241.2, 241.3, 241.5, 241.9, 242.3, 243, 243.3, 244, 244.3, 247, 247.1, 247.2, 247.3, 247.4, 251, 251.1, 252.3, 252.6, 255.1, 259, 259.7, 260, 260.1, 260.2, 261, 261.2, 261.3, 261.4, 261.5, 262.4, 262.8, 263, 263.1, 270, 270.3, 271.6, 271.7, DIG.1; 395/726 :IMAGE AVAILABLE:

91. 4,338,675, Jul. 6, 1982, Numeric data **processor**; John F. Palmer, et al., 364/748.16, 224, 230, 230.4, 232.8, 240, 244, 244.3, 247, 247.8, 258, 258.1, 258.2, 258.3, 258.4, 259, 259.5, 259.7, 260.4, 260.9, 263, 263.1, 264, 264.2, 265, 265.4, 266.4, 271, 271.2, 715.08, 737, 748.02, DIG.1 :IMAGE AVAILABLE:

92. 4,312,034, Jan. 19, 1982, ALU and Condition code control unit for data **processor**; Thomas G. Gunter, et al., 395/595; 364/231.9, 238.6, 239, 239.3, 239.4, 241.2, 241.6, 242.1, 243, 243.3, 244, 244.6, 247, 247.6, 254, 254.2, 258, 258.1, 258.2, 258.3, 259, 259.1, 259.6, 259.9, 261.3, 261.5, 262.4, 262.6, 262.7, 262.8, 262.81, 262.9, 271.6, 271.8, DIG.1 :IMAGE AVAILABLE:

93. 4,272,828, Jun. 9, 1981, **Arithmetic** logic apparatus for a data processing system; Virendra S. Negi, et al., 364/736.01, 768, 927.8, 931, 931.1, 933, 933.1, 933.2, 933.3, 933.5, 933.61, 933.7, 935, 935.2, 935.4, 937, 937.1, 937.2, 938, 938.1, 939, 939.7, 940, 941, 941.1, 942, 942.04, 942.7, 942.8, 943.9, 945.3, 945.6, 946.2, 946.6, 946.9, 947, 947.1, 947.5, 947.6, 948, 948.1, 948.3, 950, 950.1, 950.3, 951.5, 954, 954.1, 957, 957.4, 958, 958.2, 958.3, 960, 960.6, 961.1, 962, 962.1, 965, 965.5, 965.8, DIG.2 :IMAGE AVAILABLE:

94. 4,262,336, Apr. 14, 1981, Multi-axis contouring control system; Eric K. Pritchard, 364/474.11; 318/573, 696; 364/132, 174, 474.3, 474.31 :IMAGE AVAILABLE:

95. 4,247,893, Jan. 27, 1981, **Memory** interface device with processing capability; Jack L. Anderson, et al., 395/309; 364/238, 238.3, 238.4, 239, 239.1, 239.3, 240, 240.5, 244, 244.6, 247, 247.2, 247.4, 247.5, 247.6, 247.7, 247.8, 255.1, 255.2, 255.5, 258, 258.1, 259, 259.1, 259.3, 259.5, DIG.1 :IMAGE AVAILABLE:

96. 4,227,245, Oct. 7, 1980, Digital computer monitored system or process which is configured with the aid of an improved automatic programming system; Warren A. Edblad, et al., 364/468.01, 221, 221.2, 221.7, 221.9, 222.81, 222.82, 224, 224.2, 230, 230.1, 230.3, 230.4, 234, 235, 237.2, 237.8, 238, 242.1, 245, 245.1, 248, 248.1, 248.3, 259, 259.5, 262.4, 262.5, 267.9, 280, 281.3, 281.7, 281.8, 282.1, 282.3, 283.1, DIG.1 :IMAGE AVAILABLE:

97. 4,215,407, Jul. 29, 1980, Combined file and directory system for a process control digital computer system; John W. Gomola, et al.,

364/468.01, 221, 221.2, 221.4, 221.7, 221.9, 222.81, 226.8, 226.9, 228.3, 230, 230.1, 230.2, 230.3, 230.4, 232.3, 234, 235, 236, 236.2, 236.3, 237.2, 237.4, 237.8, 242.1, 248, 248.1, 248.3, 254.9, 255.1, 255.2, 258, 258.1, 258.2, 258.3, 259, 259.5, 262.4, 262.5, 264, 280, 280.8, 281.3, 281.7, 281.8, DIG.1 :IMAGE AVAILABLE:

98. 4,215,406, Jul. 29, 1980, Digital computer monitored and/or operated system or process which is structured for operation with an improved automatic programming process and system; John W. Gomola, et al., 364/468.01, 221, 221.2, 221.4, 221.7, 221.9, 222, 222.81, 222.82, 230, 230.1, 230.3, 234, 237.8, 238.2, 238.3, 241.2, 242.1, 243, 243.2, 245, 245.5, 246, 246.3, 248.1, 251, 251.5, 252, 259, 259.3, 260.4, 260.6, 260.9, 261, 262.4, 262.5, 267, 267.1, 267.2, 267.4, 270.5, 270.8, DIG.1 :IMAGE AVAILABLE:

99. 4,202,035, May 6, 1980, Modulo addressing apparatus for use in a microprocessor; John H. Lane, 395/421.07; 364/223, 223.7, 224, 224.1, 224.2, 238.6, 238.7, 238.8, 240, 240.1, 240.2, 244, 244.3, 251, 251.5, 262, 262.1, 262.4, 262.5, 262.7, 270, 270.1, 736.5, DIG.1 :IMAGE AVAILABLE:

100. 4,201,908, May 6, 1980, Measurement and recording apparatus and system; Bernard A. Johnson, et al., 377/9; 340/941; 377/6, 26 :IMAGE AVAILABLE:

101. 4,181,934, Jan. 1, 1980, Microprocessor architecture with integrated interrupts and cycle steals prioritized channel; George B. Marenin, 395/860; 364/231.4, 231.8, 232.3, 232.8, 238, 240, 240.1, 241.1, 241.2, 241.5, 241.9, 242.3, 242.31, 243, 243.3, 244, 244.3, 244.6, 245, 245.1, 247, 247.1, 247.2, 247.3, 247.6, 247.8, 251, 251.1, 252.3, 252.6, 254, 254.4, 254.6, 255, 255.1, 255.7, 258, 259, 259.1, 259.4, 259.5, 259.7, 260, 260.1, 261, 261.2, 261.3, 261.4, 261.5, 262.4, 262.5, 262.8, 263, 263.1, 263.2, 264, 264.4, 264.6, 265, 265.5, 266.3, 270, 270.3, 270.5, 270.6, 271.6, 271.7, DIG.1; 395/858 :IMAGE AVAILABLE:

102. 3,872,442, Mar. 18, 1975, SYSTEM FOR CONVERSION BETWEEN CODED BYTE AND **FLOATING POINT** FORMAT; John A. Boles, et al., 364/715.03, 231.9, 232.7, 243, 243.2, 243.6, 248.3, 260.4, 260.9, DIG.1 :IMAGE AVAILABLE:

103. 3,766,370, Oct. 16, 1973, **ELEMENTARY FLOATING POINT CORDIC FUNCTION PROCESSOR** AND SHIFTER; John S. Walther, 364/747, 231, 231.3, 232.9, 232.93, 244, 244.6, 258, 258.1, 258.2, 258.3, 258.4, 262.4, 262.8, 716.01, 719, 721, 722, DIG.1 :IMAGE AVAILABLE:

104. 3,739,352, Jun. 12, 1973, **VARIABLE WORD WIDTH PROCESSOR** CONTROL; Roger E. Packard, 395/421.04; 364/238.4, 240.1, 243, 243.3, 243.7, 245, 245.1, 251, 251.1, 251.3, 252.3, 252.6, 254.9, 255.1, 255.5, 258, 258.1, 259, 259.3, 259.5, 260, 260.2, 261.3, 261.9, 262.4, 262.8, DIG.1 :IMAGE AVAILABLE:

105. 3,702,393, Nov. 7, 1972, **CASCADE DIGITAL FAST FOURIER ANALYZER**; Peter Siegfried Fuss, 364/726.02; 324/76.21, 76.35; 364/726.04 :IMAGE AVAILABLE:

106. 3,701,976, Oct. 31, 1972, **FLOATING POINT ARITHMETIC** UNIT FOR A PARALLEL PROCESSING COMPUTER; Richard Robert Shively, 364/715.08, 223, 223.1, 225, 227, 227.2, 229, 229.2, 230, 230.3, 230.4, 231.9, 258, 258.2, 258.4, 259, 259.4, 259.5, 259.7, 260.4, 260.9, 271.6, 271.7, 768, DIG.1 :IMAGE AVAILABLE:

107. 3,626,427, Dec. 7, 1971, **LARGE-SCALE DATA PROCESSING SYSTEM**; Olin L. MacSorley, et al., 395/591; 364/231.4, 234, 237.2, 237.4, 241.2, 241.3, 246.6, 246.8, 258, 262, 263.1, 265, 266, 266.3, 270, DIG.1; 395/569 :IMAGE AVAILABLE: